

**ABSTRACT OF THE DISCLOSURE**

The present invention relates to a method for regenerating an optical signal suitable for WDM (wavelength division multiplexing). In this method, an optical signal is supplied to an optical waveguide structure (e.g., optical fiber) for providing a nonlinear effect. As a result, the optical signal undergoes chirp induced by the nonlinear effect. Then, an output optical signal output from the optical waveguide structure is supplied to an optical filter to thereby remove a small-chirp component from the output optical signal. By removing the small-chirp component from the output optical signal in the form of pulse, intensity fluctuations or accumulated noise especially at a top portion and/or a low-power portion of the pulse can be removed. Accordingly, the optical signal can be regenerated independently of the bit rate, pulse shape, etc. of the optical signal.